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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/081,035 | 02/21/2002 | Sridhar Kanamaluru | 2695.1003-007 | 9148 |

21005 7590 02/08/2005

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| EXAMINER | |
|---|---|
| NGUYEN, QUYNH H | |
| **ART UNIT** | **PAPER NUMBER** |
| 2642 | |

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/081,035 | KANAMALURU ET AL. | |
| | Examiner | Art Unit | |
| | Quynh H Nguyen | 2642 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *21-30* is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/22/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,370,398. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application present a compact lightweight antenna for receiving microwave direct line of sigh wireless data signals used in services such as Local Multipoint Distribution Services (LMDS). The antenna comprising of an external parabolically shaped dome formed of a suitably resilient material such as thermoplastic; a polarizing conductive grating; a twist reflector; the transreflecting element may be manufactured by providing a substrate that has been printed and etched and a film nonconductive substrate which had been silk screened

with a conductive ink. Claims 1-20 of the instant application substantially corresponds to claims 1-19, respectively, of U.S. Patent No. 6,370,398.

The common subject matter claimed above includes: an antenna for use in a wireless communication system comprising: a housing having a dome shaped exterior portion; a focusing transreflector; a twist reflector centered along the axis and located at a distance away from the transreflector such that the twist reflector reflects received radiation back towards the focusing transreflector and imparts a polarization to the received radiation thereby reflected so that the focusing transreflector causes the reflected and polarized radiation to be focused along the axis.

The difference between the instant application and U.S. Patent No. 6,370,398 is in the instant application the focusing transreflector consisting of conductive grating disposed along a surface of the dome and further defining an axis for the antenna, the orientation of the conductive grating such that radiation having a particular polarization passed through the conductive grating and radiation of other polarizations is reflected by the conductive grating; wherein the conductive grating is formed of a plurality of parallel conductors with a spacing typically less than one-fifth of the wavelength of a carrier frequency used in the wireless communication system; while in U.S. Patent No. 6,370,398 the focusing transreflector consisting of wire grid disposed along a surface of the dome and further defining an axis for the antenna, the orientation of the wire grid such that radiation having a particular polarization passed through the wire grid and radiation of other polarizations is reflected by the wire grid, wherein the conductive grating is formed of a plurality of parallel conductors with a spacing typically less than

one-fifth of the wavelength of a carrier frequency used in the wireless communication system of a carrier frequency used in the wireless communication system.

It would have been obvious to one of ordinary skill in the art to have a focusing transreflector consisting of a conductive grating disposed along a surface of the dome; wherein the conductive grating is formed of a plurality of parallel conductors with a spacing typically less than one-fifth of the wavelength of a carrier frequency used in the wireless communication system instead of using wire grid material wherein the conductive grating is formed of a plurality of parallel conductors with a spacing typically less than one-fifth of the wavelength of a carrier frequency used in the wireless communication system since the conductive grating is also light and inexpensive resilient material.

***Allowable Subject Matter***

3. Claims 21-30 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

Huguenin et al. (U.S. Patent 5,680,139) teach compact microwave and.millimeter wave radars. The antenna of the radars employs folded optic design, with the actual focal length of the radar being less that that of the lens in the antenna alone comprises a lens for focusing electromagnetic radiation and defining an axis of the antenna, a transreflector in a plane orthogonal to and disposed on the axis at a first distance from

the lens, and a twistreflector substantially in a plane orthogonal to and disposed on the axis at a second distance greater than the first distance from the lens.

Britt (U.S. Patent 4,220,957) teaches dual frequency horn antenna system providing two, coaxial, copolarized, independently focused beams: a relatively wide, low frequency, searching beam, and a relatively narrow, high frequency, tracking beam; and comprising a dual frequency, dual polarization feedhorn; a polarization dependent subreflector; a concave polarization reversing reflector, a concave polarization twisting reflect of; and a planar frequency dependent dielectric lens.

As to claim 21, prior art of record fails to teach, or render obvious, alone or in combination, a method for making an antenna for use in a wireless communication system comprising the claimed means and their components, relationships, and functionalities as specifically recited in claim 21.

Claims 22-30 are allowed because they depend on allowable claim 21.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh H. Nguyen whose telephone number is 703-305-5451. The examiner can normally be reached on Monday - Thursday from 6:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on (703) 305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qhn

Quynh H. Nguyen
February 3, 2005

WILLIAM J. DEANE, JR.
PRIMARY EXAMINER